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To: Housing Committee

**Date: August 13, 2008** 

From: Bob Dean, Principal Regional Planner

**Re:** Scenario Construction

A central piece of the *GO TO 2040* planning process is the evaluation of alternative future scenarios. Scenarios are combinations of actions (policies, strategies, and investments) that represent alternative paths that the region could take toward reaching its desired future, as expressed in the Regional Vision. The purpose of the scenario evaluation process is *not* to select one single scenario that will be adopted in its entirety. Instead, it is meant to allow us to examine different potential paths that the region could take toward the realization of its vision. Ultimately, the most effective pieces from each one of the scenarios will be chosen and combined into a preferred scenario.

Below are draft recommendations from staff concerning the identities of the alternative future scenarios that will be under consideration. Please note that these descriptions focus primarily on the housing aspects of each scenario; each will also have detailed environmental, economic, land use, transportation, and other components.

- Scenario 1: This will be a reference scenario, describing what will happen if we continue on our current path. This is mostly produced for the purposes of comparison. It will demonstrate that our current trends will lead to an undesirable future, and that action and change is needed.
- Scenario 2: This scenario lines up with the "preservation" course of action identified for housing. The scenario will focus on preserving those aspects of the region that we value most, including open space, affordable housing, historic buildings, etc. In terms of housing, this course of action seeks to preserve and restore the existing housing stock with an emphasis on the region's rental housing, and with a concentration on preserving affordability as well as physical stock. In areas outside of housing, this scenario features higher investment in education, workforce development, and similar actions. It does not feature heavy infrastructure investment in transportation, but does have transit operational improvements, improved bicycle and pedestrian facilities, and other low-capital features.

- Scenario 3: This scenario is consistent with the "compact, mixed-use, and transit oriented development" course of action identified for housing. The scenario will reinvest heavily in our existing communities and infrastructure. It features denser but well-designed development on infill sites with good transit access, which is supported by extensive reinvestment in our infrastructure, including transit and roads. The scenario is expected to achieve better jobs-housing balance by focusing new job creation in infill areas, closer to existing affordable housing. In this scenario, a range of housing types including rental and ownership, and also allowing access by special needs populations, will be planned and permitted as part of new mixed-use and transit-oriented developments.
- Scenario 4: This scenario is consistent with the "green development / energy efficiency" course of action but also includes new policy responses as well. It will focus on innovation, in terms of new technologies or policy solutions, to reach our vision. In terms of technology, the scenario features increased use of conservation design and an emphasis on sustainable building and performance based energy efficient practices, including retrofits of older buildings to increase their energy-efficiency and stricter design codes (using LEED, NAHB Green (NGBS), International Energy Conservation Code (IECC) or similar system) for new buildings to ensure that they are efficient. The scenario also includes innovative policy options to supply a diversity of housing options throughout the region, including employer-assisted housing or the creation of a regional fund for affordable housing planning. Outside of the housing area, this scenario includes advanced transportation technologies and pricing options, more use of alternative energy sources, attraction of "green collar" jobs to the region, and other innovative actions.

The elements of the "balanced development" course of action were divided among these three scenarios, because balanced development was determined to be a goal that could be moved toward through any of these other courses of action.

An earlier description of scenario construction, which was distributed to Housing committee members and discussed in a conference call on August 5, is attached. This contains fuller descriptions of the housing courses of action initially proposed. Please note that this was modified based on the conference call discussion.

**ACTION REQUESTED:** Discussion.

## Scenario construction process DRAFT – 8/13/08

## Description of thematic scenarios

At working committee meetings in June 2008, staff presented several options for the construction of alternative scenarios. There was general agreement that we construct our scenarios using a *thematic* method. In thematic scenario construction, each scenario is a combination of individual strategies, or a course of action. The strategies can be grouped into thematic scenarios by any method desired; the process for this proposed for CMAP will be described later.

The purpose of the scenario evaluation process is *not* to select one single scenario that will be adopted in its entirety. Instead, it is meant to allow us to examine different potential paths that the region could take toward the realization of its vision. Ultimately, the most effective pieces from each one of the scenarios will be chosen and combined into a preferred scenario.

A thematic organization was chosen after examining various other possible methods for scenario construction, including:

- Varying scenarios by intensity, as in the Envision Utah process. In this construction
  method, one scenario includes no good planning, one includes lots of good planning,
  and the others vary between these bookends. This model is useful for establishing
  that there is support for planning in general, but it does not help very much in
  prioritizing actions. Therefore, this is more useful for organizations that are trying to
  create broad support for planning, something that CMAP assumes already exists in
  this region. However, this method still may have value in terms of communication
  with the general public.
- Maximizing one goal over another. For example, an environmental scenario could be created which focuses on achieving our environmental goals, and this could be tested against an economic or an equity-focused scenario. While this method is fairly simple and easy to explain, it also leads to false choices (environmental actions can also be economically beneficial, for example), and it would pit groups of stakeholders against each other unproductively.
- Focus on investment in different areas. This method assumes that many of our region's resources are committed to maintaining our infrastructure, education, health care, and other systems, but that there is a certain amount of discretionary funding. Scenarios constructed using this method would focus the investment of this discretionary funding on infrastructure versus education, for example. While this is an interesting public policy question (how best can the public sector use its resources), it leads to the same unrealistic tradeoffs described above. Additionally, the focus on public sector investment ignores the role of private sector investment or other public sector actions such as regulation.
- Assigning growth to one area or another. This method would forecast population and jobs for different geographies and then adjust these forecasts to determine the

effect of faster population growth in Kane County, for example. This method is undesirable given the consensus-based nature of CMAP's decision-making. Also, it is unrealistic, because neither CMAP nor any other group has the ability to simply shift jobs and people between jurisdictions. While it may lead to interesting results concerning the effects of growth in one area or another, it does not lead to a prioritization of strategies.

Within thematic scenario construction, there are a variety of ways to assign strategies to different scenarios. It is proposed that CMAP involve its stakeholders and committees in this process, as described later in this document.

## Key standards met through use of thematic scenarios

Before the decision that thematic scenario construction was the right method, a number of baseline scenario features were established to guide the choice of the best scenario construction method. These included the following:

- Scenarios should be logical and internally consistent, and should also be reasonable views of the future, rather than "straw men" which exist to be destroyed. Thematic scenarios can provide more realistic futures than the other methods, which tend toward extremes.
- The purpose of scenarios is to prioritize actions for implementation. Because thematic scenarios are combinations of actions, they can do this. (So could several other of the scenario construction methods, as well.)
- In comparison to the reference scenario, each scenario should lead to an overall improvement in environmental quality, economic competitiveness, equity, and other vision themes. Thematic scenarios can be constructed in a way to ensure that each contains strategies to improve the environment, economy, etc. Other scenario options, such as the maximizing of one goal over another, would tend to be less balanced, and in some cases, it would be difficult to ensure that this standard were met (for example, an economically-focused scenario could easily have a negative effect on the environment.)
- Minimum standards or "floors" should be included in each scenario for basic
  maintenance of the system, continued funding for education, an acceptable level of
  planning for safety and security, etc. This could actually be accomplished through
  any of the scenario construction methods.
- Cost constraints should be clear. This can either be accomplished through holding
  costs equal and ensuring that all scenarios cost the same, or by explicitly stating the
  tradeoffs between benefits and costs (such as higher taxes). Because thematic
  scenarios are combinations of explicit strategies, either of these methods can work
  with a thematic scenario construction method.
- Scenarios should be treated as examples that illustrate potential futures, not the full range of futures that are available to the region. This is a key consideration in thematic scenarios, and one way in which they may be more difficult to use than other options. They will appear to have a degree of arbitrariness to anyone not

involved in their construction. For example, it is easy to understand that an "environment vs economy vs equity" tradeoff is done to provoke thought and discussion. Because the choices involved in thematic scenarios are not so simplistic, and the future they describe are more realistic, they may be viewed by some as actual choices rather than illustrations.

Scenarios should be designed with public communication in mind. This will be a
greater challenge for thematic scenarios than for others. However, it is more
important to select a scenario construction process that allows the most robust
analysis possible. Given sufficient effort and creativity, even the most complex
processes can be communicated to the public.

In addition to these standards established ahead of time, a number of issues were discussed at the working committee meetings which can be accommodated within thematic scenario construction. A key issue was the responsiveness of scenarios to outside forces, such as energy prices, overall global economic conditions, and climate change. This can be addressed by doing "robustness testing" after scenarios are constructed. For each scenario, we can ask how much sense that particular combination of actions would make in a future with considerably higher energy prices, for example. Energy usage is likely to be calculated for each scenario, so it would be a simple matter to identify the most and least energy-efficient scenarios. This may not matter for decision-making now; we need to select a preferred set of actions based on the best information that we currently have. But as we get a clearer picture of the future of energy prices, we can re-prioritize our strategies based on our changing expectations.

Another critical issue was the place of Chicago within the global economy, as it is clear that global trends do affect the region. There are a variety of actions that can be take in response to this, ranging from increased local food production, to specializing in green architecture, to centralizing our position as an international freight hub, to trying to save our manufacturing jobs, etc. Which one of these courses of action makes most sense depends largely on one's future expectations. However, regardless of this, the plan needs to directly address our place within the global economy.

## Request for comments

CMAP staff have developed some potential courses of action, included as a separate attachment, that could be included as components of alternative scenarios. These are meant as a starting point for discussion. Please recall when reviewing these that a preferred scenario will likely contain elements from each of these – the purpose of the scenarios is to examine different alternatives and spark discussion about our priorities for actions and investments.

In the area of housing, potential courses of action for inclusion in scenarios could be:

- "Preservation." This course of action seeks to preserve and restore the existing housing stock with an emphasis on the region's rental housing. It includes prioritizing government resources towards housing rehabilitation, and the adaptation of building codes to better facilitate efficiency and cost effectiveness in housing rehabilitation. The preservation of housing affordability, in addition to the actual stock, is also an element of this course of action.
- "Compact, Mixed-Use, and Transit Oriented Development." This course of action seeks to reduce land consumption by permitting more housing units on less land, and to provide a range of housing options in close proximity to other land uses. It includes increasing density, decreasing lot sizes and incorporating good urban design principles to mitigate any negative impacts of more intensive development. This course of action also reduces the cost of housing construction by minimizing infrastructure and land costs. This course of action emphasizes transit-oriented development to reduce the need for auto travel.
- "Green Development / Energy Efficiency." This course of action seeks to minimize the impact of new development, while accepting that new development outside of the existing urban footprint will occur by 2040. It includes increased use of conservation design and an emphasis on sustainable building and energy efficient practices, focusing on performance-based outcomes and the relationship of energy efficiency to affordability. This also includes retrofits of older buildings to increase their energy-efficiency and stricter design codes (using LEED, NAHB Green (NGBS), International Energy Conservation Code (IECC) or similar system) for new buildings to ensure that they are efficient.
- "Balanced Development." This course of action seeks to supply a diversity of housing options throughout the region. It focuses on the distribution and mix of housing stock allowing a jobs-housing balance. It focuses on the type of housing that is affordable to residents at varying income levels. This course of action also seeks to develop housing that is appropriate to each community and meets the changing demands of its workforce and demographics. It includes policies that are responsive to community's needs, for example, creating more affordable housing opportunities or allowing for a more diverse housing stock. Other elements of this course of action include increasing the rental housing stock, permitting accessory units, developing workforce housing initiatives or providing special needs housing.